



Edd Clark & Associates, Inc.

Environmental Consultants

June 14, 2006

Job No.: 0351,001.99

Steve Hart
1952 Siesta Lane
Santa Rosa, CA 95403

**Groundwater Monitoring Report - January 2006 Event
1952 Siesta Lane
Santa Rosa, California
NCRWQCB Case No. 1TSR360**

Dear Mr. Hart:

Please accept this as Edd Clark & Associates, Inc.'s (EC&A's) report on the January 2006 groundwater monitoring event at 1952 Siesta Lane (site) in Santa Rosa, California (Figure 1). Groundwater monitoring is being conducted at the site at the request of the North Coast Regional Water Quality Control Board (NCRWQCB) because of a release of fuel hydrocarbons (FHCs) to the subsurface from the former underground storage tank (UST) for heating oil.

Monitoring activities for this event included measuring depth to water (DTW) in monitoring wells MW-1 through MW-4 (Figure 2); collecting groundwater samples for chemical analyses from MW-2, MW-3 and MW-4; calculating groundwater-flow direction and gradient; evaluating the results of the calculations and analyses; and preparing this report. A copy of this report will be sent to the NCRWQCB and the Santa Rosa Fire Department (SRFD) for their review.

Water-level Measurements

On January 6, 2006, EC&A personnel measured DTW in MW-1 through MW-4. DTW below the top of well casing (TOC) in each well was measured to the nearest 0.01 foot (ft) with a water-level meter. The meter was cleaned and rinsed prior to taking measurements in each well. The DTW was recorded after the well caps were removed and groundwater in the wells had been allowed to equilibrate for a minimum of 15 minutes. DTW in MW-1 through MW-4 ranged from 10.18 ft (MW-2) to 10.95 ft (MW-3); the groundwater-flow direction and gradient in the vicinity of the former UST were calculated to be S18°E and 0.003 ft/ft, respectively (Table 1 and Figure 2).

Groundwater Field Logs containing DTW measurements are in Appendix A. DTW data will be electronically submitted to the State GeoTracker Internet Database.

Groundwater Sampling Procedures

On January 6, 2006, EC&A personnel collected groundwater samples from MW-2, MW-3 and MW-4. Prior to collecting samples, the wells were purged with a submersible pump. Purged water was checked for the presence of free-floating product. Free-floating product was not present in the purged water. Groundwater pH, temperature and electric conductivity were recorded during purging

of each well at intervals of approximately one well-casing volume. Groundwater samples were collected from each well after groundwater parameters stabilized and the water level returned to a minimum of 80% of the initially recorded water level. Purge volumes and groundwater-quality parameters are recorded on the Groundwater Field Logs in Appendix A.

Groundwater samples were collected in new single-sample, disposable bailers fitted with disposable, bottom-emptying devices to minimize water degassing. The samples were transferred from the bailers to properly labeled, laboratory-supplied sterile sample containers, logged on a chain-of-custody form, placed on ice and transported to McCampbell Analytical, Inc. (MAI) for the required chemical analyses. MAI is a State-certified laboratory in Pacheco, California.

Decontamination Procedures

Sampling equipment was cleaned onsite with a low-phosphorous soap and water solution and double rinsed with tap water. Decontamination water and monitoring well purge water were placed in properly labeled, DOT 17H 55-gallon drums for temporary, onsite storage.

Groundwater Sample Analysis and Analytical Results

Groundwater samples were analyzed by Analytical Method SW8015C for total petroleum hydrocarbons (TPH) as diesel (d) and by Analytical Method SW8021B for benzene, toluene, ethylbenzene and xylenes (BTEX). TPHd was detected in the groundwater sample collected from MW-3 at 85 micrograms per liter ($\mu\text{g/l}$). No other analytes were detected in the groundwater samples for the January 2006 event.

Analytical results for monitoring well samples are summarized in Table 2. TPHd results are presented on Figure 2; concentrations of TPHd over time in MW-3 and MW-4 are presented on Figure 3. Historic results for groundwater samples collected from the inactive, onsite water-supply well and nearby, offsite irrigation wells are summarized in Table 3. A complete copy of the analytical laboratory report is in Appendix B. Groundwater sample results will be electronically submitted to the State GeoTracker Internet Database.

Discussion

The groundwater-flow direction has been westerly for all sample events conducted to date, except for the December 2002 and January 2006 monitoring events, when it was southerly. MW-2 and MW-4 have been down gradient from the former UST for the majority of the sample events.

Out-of-service water-supply well WW-1 has been removed from the sampling program. FHCs were not detected in WW-1 for five consecutive groundwater sample events and the well is not in-service. Groundwater analytical results for WW-1 are presented in Table 3.

The primary contaminant in groundwater beneath the site is TPHd. In MW-1, which is located approximately 55 ft northwest and down/cross-gradient from the former UST, TPHd has not been detected since sampling began in November 2001. Minor concentrations of xylenes were detected in MW-1 in two of seven monitoring events conducted to date (June 2003 and April 2005).

Prior to the October 2005 event in MW-2, which is located approximately 65 ft and down-gradient from the former UST, TPHd had not been detected since June 2003. In October 2005, TPHd was detected at 110 µg/l in MW-2, but returned to below the detection limit of 50 µg/l in January 2006. Minor concentration of BTEX compounds have only been detected in MW-2 twice (April and October 2005); previous to April 2005, BTEX was non-detect (ND) for twelve consecutive events. For the January 2006 event, BTEX compounds were all below the detection limit of 0.5 µg/l.

TPHd concentrations in MW-3 continue to fluctuate between sampling events. MW-3 is located approximately 15 ft southeast and cross-gradient from the former location of the UST. Since the October 2002 over-excavation, concentrations of TPHd in MW-3 have ranged from 85 µg/l in January 2006 to 25,000 µg/l in December 2002. Between the October 2005 and January 2006 sample events, TPHd concentrations decreased significantly from 330 µg/l to 85 µg/l, the lowest concentration of TPHd detected to date in MW-3. Minor concentrations of BTEX compounds in MW-3 have only been detected twice (April and October 2005). For the January 2006 event, BTEX compounds were not reported above the detection limit of 0.5 µg/l.

Prior to the January 2006 event, TPHd concentrations in MW-4, which is located adjacent to the west side of the October 2002 over-excavation, have ranged from 91 µg/l in July 2005 to 1400 µg/l in December 2003. Between the October 2005 and January 2006 sample events, TPHd concentrations decreased from 280 µg/l to below the detection limit of 50 µg/l, making this event the first one for which TPHd has not been detected (ND) in MW-4 since sampling began in December 2002. MW-4 BTEX compounds have been detected for five of the thirteen sample events conducted to date for MW-4, at a maximum concentration of 18 µg/l (xylenes, October 2005). For the January 2006 event, BTEX compounds were not detected in MW-4.

There has been a tenuous relationship between the fluctuations of groundwater elevations and TPHd concentrations in MW-3 and MW-4 (Figure 3). There have been four wet-season peaks in TPHd concentrations in MW-3 since monitoring began in November 2001. In the 2001-2002 and 2003-2004 wet seasons, the highest TPHd concentrations were measured in the monitoring event preceding the highest groundwater elevation (November 2001 and December 2003). In the 2002-2003 and 2004-2005 wet seasons, the highest TPHd concentrations coincided with the highest groundwater elevation (December 2002 and January 2005). However, significant rises in TPHd concentrations in MW-3 took place in September 2002, and October 2004 while groundwater levels were still low. A similar relationship has been observed in MW-4, where the fall samples in 2003 and 2004 showed increased concentrations of TPHd at the same time that groundwater levels were still declining. Additionally, for the January 2006 event, which had the highest groundwater levels recorded to-date in MW-3 and MW-4, the TPHd concentration decreased significantly in both wells.

Overall, TPHd concentrations in MW-3 and MW-4 have declined since the October 2002 over-excavation (Figure 3). However, because TPHd concentrations are declining slowly with erratic fluctuations, it appears that the time frame for natural degradation to reduce FHC concentrations to levels compliant with NCRWQCB Water Quality Objectives (WQOs) would be at least several years, requiring extended groundwater monitoring to confirm the decline. Therefore, as

recommended in EC&A's January 9, 2006 *Groundwater Monitoring Report - October 2005 Event*, EC&A prepared a workplan for interim remediation utilizing High Vacuum Dual Phase Extraction (HVDPE) equipment to extract and treat TPHd-impacted groundwater. EC&A's February 16, 2006 *Workplan for Groundwater Interim Remediation* was approved by the NCRWQCB in their letter dated March 17, 2006.

Recommendations

EC&A recommends continued quarterly sampling of MW-2, MW-3 and MW-4, and annual sampling of MW-1 during seasonally high water-table levels. Groundwater samples should continue to be analyzed for TPHd and BTEX by Analytical Methods SW8015C/8021B. DTW measurements should be collected quarterly from MW-1 through MW-4.

Schedule

An annual groundwater sampling event was conducted at the site on April 4, 2006.

A 14-day HVDPE event was conducted at the site from May 9 to May 23, 2006. Groundwater samples were collected from MW-3 and MW-4 on June 8, 2006, approximately two weeks following the conclusion of the HVDPE event. EC&A anticipates that a report of the HVDPE event and June sample event will be completed by July 31, 2006.

Limitations

The conclusions presented in this report are professional opinions based on the information presented herein, which includes data generated by others. Whereas EC&A does not guarantee the accuracy of data supplied by third parties, we reserve the right to use this data in formulating our professional opinions. This report is intended only for the indicated purpose and project site. Conclusions and recommendations presented herein apply to site conditions existing at the time of our study. Changes in the conditions of the site property can occur with time because of natural processes or the works of man on the site or adjacent properties. Changes in applicable standards can also occur as the result of legislation or from the broadening of knowledge. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond our control.

Thank you for allowing EC&A the opportunity to provide environmental services for you. Please call John Calomiris, project manager, if you have any questions.

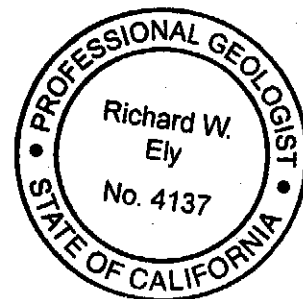
Very truly yours,

Etta Jon VandenBosch

Etta Jon VandenBosch
Environmental Scientist

Richard Ely

Richard Ely, PG #4137
Senior Geologist



June 14, 2006

Job No.: 0351,001.99

Edd Clark & Associates, Inc.

Attachments: Figure 1 - Site Location Map

Figure 2 - Groundwater Elevation Map with TPHd Concentrations,
6 January 2006

Figure 3 - Concentrations of TPHd Versus Time in Monitoring Wells MW-3
and MW-4

Table 1 - Groundwater Elevation Data

Table 2 - Monitoring Well Groundwater Sample Analytical Results

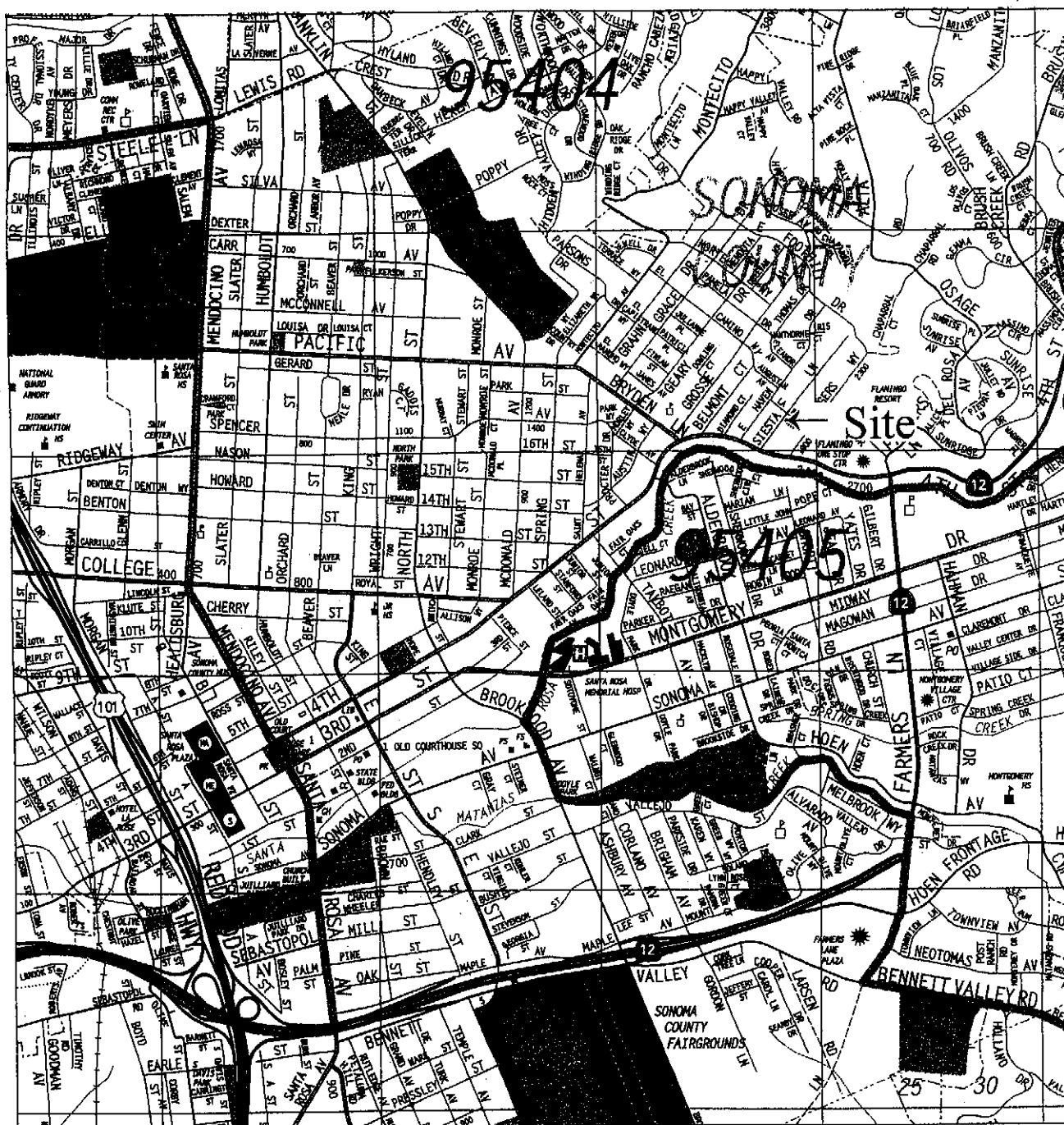
Table 3 - Water Well Groundwater Sample Analytical Results

Appendix A - Groundwater Field Logs

Appendix B - Analytical Laboratory Report

cc: Joan Fleck, North Coast Regional Water Quality Control Board
Mark McCormick, Santa Rosa Fire Department

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Site Location Map
1952 Siesta Lane
Santa Rosa, California

FIGURE
1

JOB NUMBER
0351,001.99

REVIEWED BY:
Lori Brown

DATE:
January 2003

REVISED DATE:

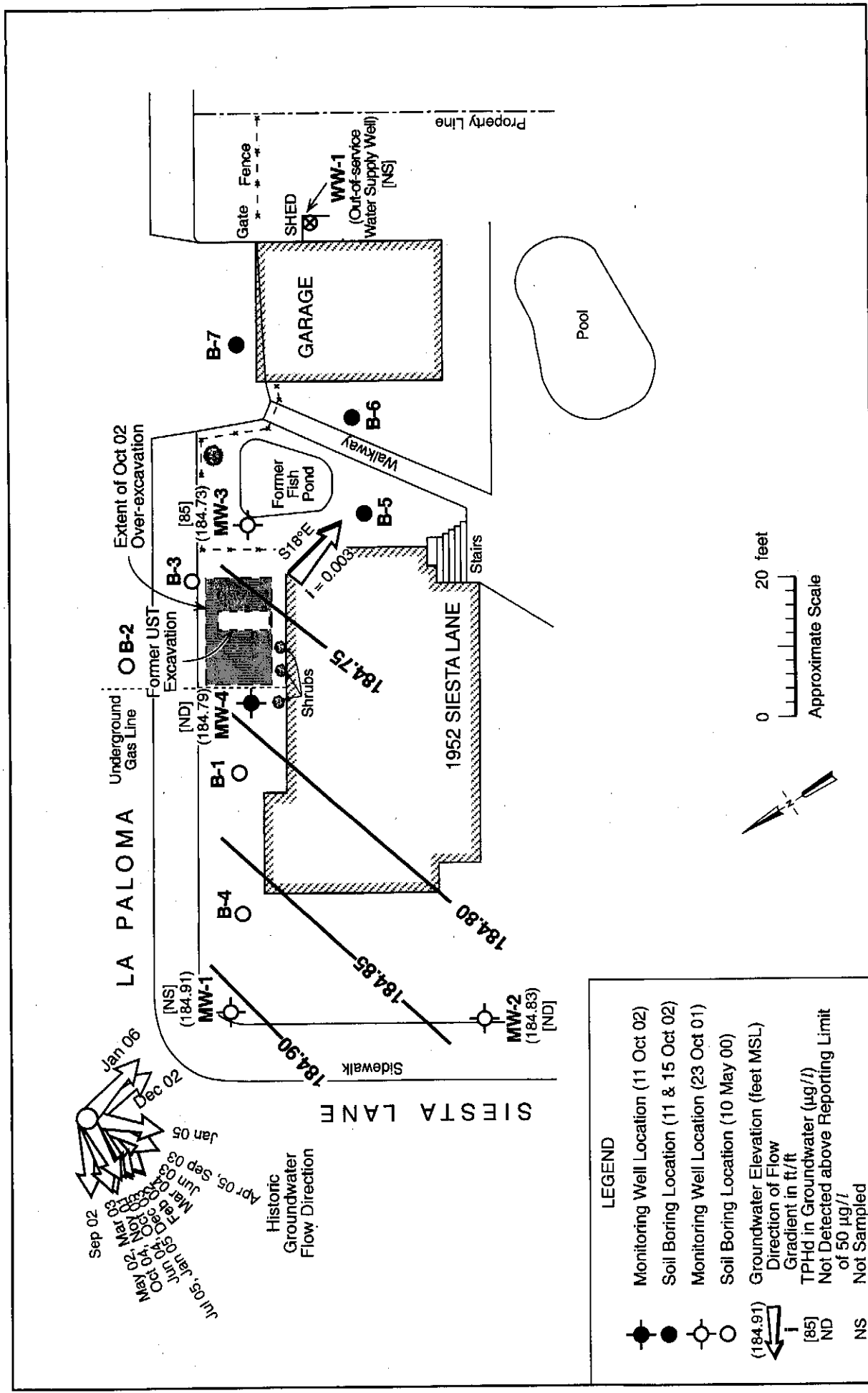
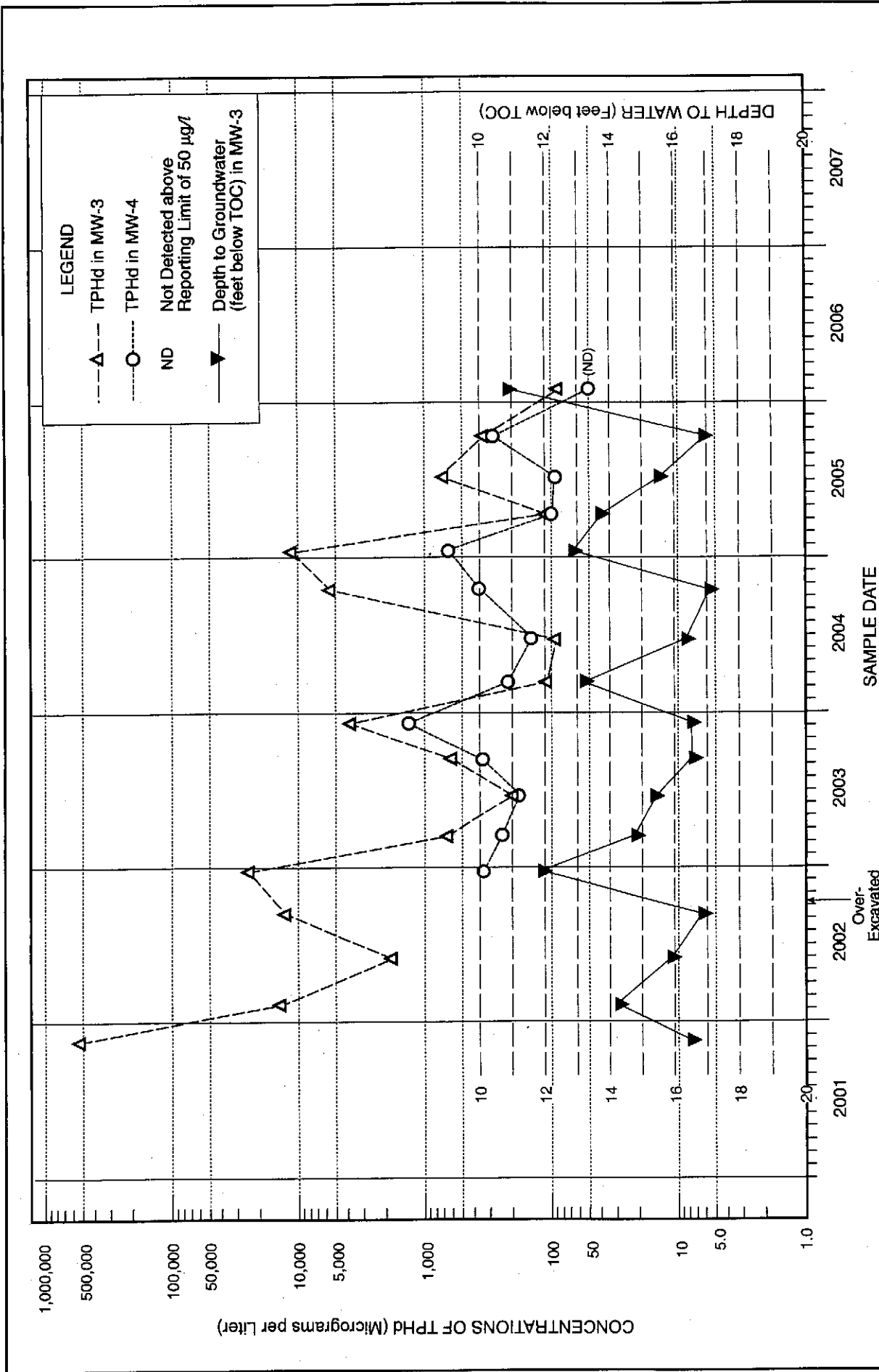


FIGURE 2

GROUNDWATER ELEVATION MAP with TPHd Concentrations, 06 January 2006 1952 Siesta Lane Santa Rosa, California

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JOB NUMBER	0351, 001.99	REVIEWED BY	EC&A, E.J. VandenBosch	DATE	March 2005	REVISED DATE	April 2006
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CONCENTRATIONS OF TPHd VERSUS TIME
 in Monitoring Wells MW-3 and MW-4
 1952 Siesta Lane
 Santa Rosa, California

FIGURE

3

JOB NUMBER	0351,001.99	REVIEWED BY	EC&A, E.J. VandenBosch	DATE	March 2005	REVISED	December 2005	SHEET NO.	1 of 1
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(TRACE #350/RG/21Aug05)

**Table 1. Groundwater Elevation Data
1952 Siesta Lane, Santa Rosa, California**

Well ID	Date	TOC Elevation feet	DTW feet	Groundwater Elevation feet
MW-1	11/14/01	195.41	16.66	178.75
MW-2		195.01	16.29	178.72
MW-3		195.68	16.78	178.90
Gradient: S78°W, 0.023 ft/ft				
MW-1	02/11/02	195.41	14.36	181.05
MW-2		195.01	14.02	180.99
MW-3		195.68	14.52	181.16
Gradient: S80°W, 0.0022 ft/ft				
MW-1	05/29/02	195.41	16.03	179.38
MW-2		195.01	15.66	179.35
MW-3		195.68	16.14	179.54
Gradient: N77°W, 0.0024 ft/ft				
MW-1	09/09/02	195.41	17.03	178.38
MW-2		195.01	16.64	178.37
MW-3		195.68	17.10	178.58
Gradient: N62°W, 0.0028 ft/ft				
MW-1	12/23/02	195.41	11.82	183.59
MW-2		195.01	11.49	183.52
MW-3		195.68	12.18	183.50
MW-4		195.53	12.01	183.52
Gradient: S04°E, ? *				
MW-1	03/12/03	195.41	14.94	180.47
MW-2		195.01	14.59	180.42
MW-3		195.68	15.05	180.63
MW-4		195.53	14.91	180.62
Gradient: N77°W, 0.0036 ft/ft **				

**Table 1. Groundwater Elevation Data
1952 Siesta Lane, Santa Rosa, California**

Well ID	Date	TOC Elevation feet	DTW feet	Groundwater Elevation feet
MW-1	06/16/03	195.41	15.51	179.90
MW-2		195.01	15.15	179.86
MW-3		195.68	15.61	180.07
MW-4		195.53	15.49	180.04
Gradient: S77°W, 0.0032 ft/ft				
MW-1	9/10/03	195.41	16.81	178.60
MW-2		195.01	16.42	178.59
MW-3		195.68	16.87	178.81
MW-4		195.53	16.75	178.78
Gradient: S57°W, 0.0045 ft/ft				
MW-1	12/03/03	195.41	16.69	178.72
MW-2		195.01	16.31	178.70
MW-3		195.68	16.78	178.90
MW-4		195.53	16.65	178.88
Gradient: S86°W, 0.0032 ft/ft				
MW-1	03/08/04	195.41	13.23	182.18
MW-2		195.01	12.90	182.11
MW-3		195.68	13.43	182.25
MW-4		195.53	13.30	182.23
Gradient: S71°W, 0.002 ft/ft				
MW-1	06/21/04	195.41	16.51	178.90
MW-2		195.01	16.13	178.88
MW-3		195.68	16.58	179.10
MW-4		195.53	16.47	179.06
Gradient: N90°W, 0.003 ft/ft				

**Table 1. Groundwater Elevation Data
1952 Siesta Lane, Santa Rosa, California**

Well ID	Date	TOC Elevation feet	DTW feet	Groundwater Elevation feet
MW-1	10/15/04	195.41	17.29	178.12
MW-2		195.01	16.89	178.12
MW-3		195.68	17.33	178.35
MW-4		195.53	17.23	178.30
Gradient: N80°W, 0.003 ft/ft				
MW-1	01/14/05	195.41	12.91	182.50
MW-2		195.01	12.56	182.45
MW-3		195.68	13.16	182.52
MW-4		195.53	13.01	182.52
Gradient: S42°W, 0.002 ft/ft				
MW-1	04/08/05	195.41	13.55	181.86
MW-2		195.01	13.21	181.80
MW-3		195.68	13.77	181.91
MW-4		195.53	13.83	181.70
Gradient: S58°W, 0.002 ft/ft				
MW-1	07/01/05	195.41	15.51	179.90
MW-2		195.01	15.15	179.86
MW-3		195.68	15.62	180.06
MW-4		195.53	15.49	180.04
Gradient: S88°W, 0.003 ft/ft				
MW-1	10/06/05	195.41	16.94	178.47
MW-2		195.01	16.56	178.45
MW-3		195.68	16.99	178.69
MW-4		195.53	16.87	178.66
Gradient: N32°W, 0.003 ft/ft				

**Table 1. Groundwater Elevation Data
1952 Siesta Lane, Santa Rosa, California**

Well ID	Date	TOC Elevation feet	DTW feet	Groundwater Elevation feet
MW-1	01/06/06	195.41	10.50	184.91
MW-2		195.01	10.18	184.83
MW-3		195.68	10.95	184.73
MW-4		195.53	10.74	184.79
Gradient: S18°E, 0.003 ft/ft				

Notes

TOC: Top of casing elevation measured relative to mean sea level (msl)

DTW: Depth to water from TOC

NM: Not measured

*: The gradient was too flat over the area of measurement for a meaningful calculation of the gradient

**: The gradient was previously mis-recorded as S77°W, 0.0036 ft/ft in this table and on the Groundwater Elevation Map (GEM) for March 2003; the gradient for March 2003 as indicated above and by the contours on the March 2003 GEM was N77°W, 0.0036 ft/ft.

**Table 2. Monitoring Well Groundwater Sample Analytical Results
1952 Siesta Lane, Santa Rosa, California**

Sample ID	Date	DTW ft bgs	TPHd µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Xylenes µg/l
MW-1 †	11/14/01	16.66	ND<50 ⁱ	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	02/11/02	14.36	ND<50 ⁱ	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	05/29/02	16.03	ND<50 ⁱ	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	09/09/02	17.03	ND<50 ⁱ	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/16/03	15.51	ND<50	ND<0.5	ND<0.5	ND<0.5	1.6
	03/08/04	13.23	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	04/08/05	13.55	ND<50	ND<0.5	ND<0.5	ND<0.5	0.56
MW-2 †	11/14/01	16.29	90 ^{b,i}	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	02/11/02	14.02	ND<50 ⁱ	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	05/29/02	15.66	60 ^b	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	09/09/02	16.64	ND<50 ⁱ	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/23/02	11.49	240 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/12/03	14.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/16/03	15.15	58 ^b	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	09/10/03	16.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/03/03	16.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/08/04	12.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/21/04	16.13	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/15/04	16.89	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	04/08/05	13.21	ND<50	ND<0.5	ND<0.5	0.75	1.6
	10/06/05	16.56	110 ^{b,g}	0.55	0.83	ND<0.5	1.3
	01/06/06	10.18	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-3	11/14/01	16.78	540,000 ^{a,h,i}	ND<0.5	ND<0.5	0.56	2.2
	02/11/02	14.52	15,000 ^{a,h,i}	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	05/29/02	16.14	1800 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	09/09/02	17.10	13,000 ^{a,i}	ND<0.5	ND<0.5	ND<0.5	ND<0.5

**Table 2. Monitoring Well Groundwater Sample Analytical Results
1952 Siesta Lane, Santa Rosa, California**

Sample ID	Date	DTW ft bgs	TPHd µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Xylenes µg/l
MW-3 continued	12/23/02	12.18	25,000 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/12/03	15.05	650 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/16/03	15.61	200 ^c	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	09/10/03	16.87	600 ^c	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	12/03/03	16.78	3900 ^c	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/08/04	13.43	110 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/21/04	16.58	94 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/15/04	17.33	5500 ^{a,h}	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/14/05	13.16	11,000 ^{a,h,i}	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	04/08/05	13.77	110 ^b	ND<0.5	ND<0.5	0.90	2.0
	07/01/05	15.62	730 ^{c,g}	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/06/05	16.99	330 ^{c,g}	1.2	1.6	0.64	2.2
	01/06/06	10.95	85 ^b	ND<0.5	ND<0.5	ND<0.5	ND<0.5
MW-4	12/23/02	12.01	330 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/12/03	14.91	240 ^a	ND<0.5	ND<0.5	1.1	2.0
	06/16/03	15.49	190 ^a	ND<0.5	ND<0.5	0.60	1.6
	09/10/03	16.75	330 ^a	ND<0.5	ND<0.5	ND<0.5	0.93
	12/03/03	16.65	1400 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	03/08/04	13.30	210 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	06/21/04	16.47	150 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/15/04	17.23	370 ^a	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	01/14/05	13.01	640 ^{a,i}	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	04/08/05	13.83	100 ^b	ND<0.5	ND<0.5	1.0	2.4
	07/01/05	15.49	91 ^b	ND<0.5	ND<0.5	ND<0.5	ND<0.5
	10/06/05	16.87	280 ^{d,b,g}	8.7	13	4.6	18
	01/06/06	10.74	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Notes

- DTW: Depth to water below top of casing
ft bgs: Feet below ground surface
TPHd: Total petroleum hydrocarbons as diesel
µg/l: Micrograms per liter
ND: Not detected above the reporting limit
NS: Not sampled
a: Unmodified or weakly modified diesel is significant
b: Diesel range compounds are significant; no recognizable pattern
c: Aged diesel? is significant
d: Gasoline range compounds are significant
g: Oil range compounds are significant
h: Lighter than water immiscible sheen is present
i: Liquid sample that contains greater than ~1 or ~2 vol. % sediment
†: MW-1 is sampled annually during seasonally high water. MW-2 was sampled semiannually during seasonally high and low water-table levels from October 2004 to October 2005; quarterly sampling resumed in January 2006.

**Table 3. Water Well Groundwater Sample Analytical Results
1952 Siesta Lane, Santa Rosa, California**

Sample ID	Date	TPHd µg/l	Benzene µg/l	Toluene µg/l	Ethyl- benzene µg/l	Xylenes µg/l
WW-5	05/29/02	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
WW-6	05/29/02	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
WW-4	09/24/02	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
WW-1	12/23/02	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
WW-1	03/12/03	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
WW-1	06/16/03	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5
WW-1	09/10/03	ND<50*	ND<0.5	ND<0.5	ND<0.5	ND<0.5
WW-1	12/03/03	ND<50*	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Notes

WW-1 is an onsite, out-of-service water well

WW-4 is an 8-inch out-of-service irrigation well located at 1955 Rogers Way

WW-5 is a 6-inch irrigation well located at 2002 Siesta Lane

WW-6 is a 6-inch irrigation well located at 2014 Siesta Lane

TPHd: Total petroleum hydrocarbons as diesel

µg/l: Micrograms per liter

ND: Not detected above the reporting limit

*: TPHd analyzed using silica gel cleanup

Appendix A

Groundwater Field Logs

DAILY FIELD RECORD

Page 1 of 1

Project and Task Number: 0351	Date: 1/6/06
Project Name: STEVE HART	Field Activity: GROUNDWATER MONITORING
Location: 152 SIBSTAN	Weather: Sunny Clear
Time of OVM Calibration:	

PERSONNEL			
Name	Company	Time In	Time Out
C. Hute	EC + A		

DRUM ID	DESCRIPTION OF CONTENTS AND QUANTITY	LOCATION
2	1 1/3 full	Beside Garage in fenced area

TIME	DESCRIPTION OF WORK PERFORMED
	Load WL - 1 ORDER 243,
	Depart
	Onsite, open all wells, set up Decon MW-1 10.50
	TAKE DTW's MW-2 10.18
	Calc GWF logs MW-3 10.95
	Begin Purging wells in order MW-4 10.74
	Allow wells to recharge
	TAKE Post Purge DTW's
	Sample Wells in order
	close and lock wells
3:30	Depart
4:00	Office + Paperwork

FIELD LOG

<input checked="" type="checkbox"/> GROUNDWATER		<input type="checkbox"/> SURFACE WATER		<input type="checkbox"/> DOMESTIC WATER		<input type="checkbox"/> IRRIGATION WATER		<input type="checkbox"/> WELL DEVELOPMENT	
Project No: 0351 Hart					Field point name: MW-2				
Global ID: T0609700770					Well depth from TOC: 20'				
Project location: 1952 Siesta AVE Santa Rosa					Well diameter: <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> Other:				
Date: 1-6-06					Product level from TOC: ND				
Time:					Water level from TOC: 10.18				
Recorded by: C. Hute					Screened interval: 5-20				
Purge time (duration):					Well elevation (TOC): 195.01				
WEATHER									
Wind: 0-2 mph					Precip. in last 5 days: yes				
VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING									
<input checked="" type="checkbox"/> 2" well = 0.17 gal/ft		9.82		<input type="checkbox"/> 6" well = 1.47 gal/ft		Gallons in 1 well volume:		1.67	
<input type="checkbox"/> 4" well = 0.66 gal/ft				<input type="checkbox"/> " well = gal/ft		Total gallons removed: 5.1		Well volumes removed: 3	
CALIBRATION									
Parameter	Time	Calibration	Before Sampling	Time	After Sampling				
EC:									
FIELD MEASUREMENTS									
Time	pH	EC (x1000)	Temp °F	Case Volumes/ Gallons	Appearance				
	6.55	544.5	64.1	1 / 1.7	Low Turb no Odor no Sheen				
	6.64	504.4	64.8	2 / 3.4					
	6.70	501.2	64.8	3 / 5.1					
				1					
Notes:									
Water level after purging below TOC:					80% of original water level below TOC: yes				
Water level before sampling below TOC: 10.23									
Appearance of sample:					Time: 3:00				
<input type="checkbox"/> Bailer:	Type:	GPM:	<input checked="" type="checkbox"/> Pump: ES-4		Type: Submersible	GPM: 2			
<input type="checkbox"/> Dedicated:	Type:	GPM:	Decontamination method: Liquinox wash, double rinse						
Sample analysis:	<input type="checkbox"/> TPHg	<input checked="" type="checkbox"/> TPHd	<input type="checkbox"/> TPH	<input checked="" type="checkbox"/> BTEX	<input type="checkbox"/> 7 oxygenates	<input type="checkbox"/> Lead scavengers	<input type="checkbox"/> VOCs	<input type="checkbox"/> Nitrates	
EPA Method:									
Other:									
LABORATORY: <input checked="" type="checkbox"/> McCampbell Analytical <input type="checkbox"/> Other:									

FIELD LOG

<input checked="" type="checkbox"/> GROUNDWATER		<input type="checkbox"/> SURFACE WATER		<input type="checkbox"/> DOMESTIC WATER		<input type="checkbox"/> IRRIGATION WATER		<input type="checkbox"/> WELL DEVELOPMENT	
Project No: 0351 Hart					Field point name: MW-3				
Global ID: T0609700770					Well depth from TOC: 20'				
Project location: 1952 Siesta AVE Santa Rosa					Well diameter: <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> Other:				
Date: 1-6-06					Product level from TOC: ND				
Time:					Water level from TOC: 10.95				
Recorded by: C. Hute					Screened interval: 5-20				
Purge time (duration):					Well elevation (TOC): 195.68				
WEATHER									
Wind: 0-2 mph					Precip. in last 5 days: YES				
VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING									
<input checked="" type="checkbox"/> 2" well = 0.17 gal/ft		9.05		<input type="checkbox"/> 6" well = 1.47 gal/ft		Gallons in 1 well volume:		1.54	
<input type="checkbox"/> 4" well = 0.66 gal/ft				<input type="checkbox"/> " well = gal/ft		Total gallons removed:		4.5	
						Well volumes removed:		3	
CALIBRATION									
Parameter	Time	Calibration	Before Sampling	Time	After Sampling				
EC:									
FIELD MEASUREMENTS									
Time	pH	EC (x1000)	Temp °F	Case Volumes/ Gallons	Appearance				
	6.90	461.0	64.3	1 / 1.5	Low Turb ND odor ND Sheen				
	6.79	455.4	64.5	2 / 3.0					
	6.75	451.0	64.5	3 / 4.5					
				1					
Notes:									
Water level after purging below TOC:					80% of original water level below TOC: YES				
Water level before sampling below TOC: 10.99									
Appearance of sample:					Time: 3:30				
<input type="checkbox"/> Bailer:	Type:	GPM:	<input checked="" type="checkbox"/> Pump: ES-40		Type: Submersible	GPM: 2			
<input type="checkbox"/> Dedicated:	Type:	GPM:	Decontamination method: Liquinox wash, double rinse						
Sample analysis:	<input checked="" type="checkbox"/> TPHg	<input checked="" type="checkbox"/> TPHd	<input type="checkbox"/> TPH	<input checked="" type="checkbox"/> BTEX	<input type="checkbox"/> 7 oxygenates	<input type="checkbox"/> Lead scavengers	<input type="checkbox"/> VOCs	<input type="checkbox"/> Nitrates	
EPA Method:									
Other:									
LABORATORY: <input checked="" type="checkbox"/> McCampbell Analytical <input type="checkbox"/> Other:									

FIELD LOG

<input checked="" type="checkbox"/> GROUNDWATER	<input type="checkbox"/> SURFACE WATER	<input type="checkbox"/> DOMESTIC WATER	<input type="checkbox"/> IRRIGATION WATER	<input type="checkbox"/> WELL DEVELOPMENT
Project No: 0351 Hart		Field point name: MW-4		
Global ID: T0609700770		Well depth from TOC: 20'		
Project location: 1952 Siesta AVE Santa Rosa		Well diameter: <input checked="" type="checkbox"/> 2" <input type="checkbox"/> 4" <input type="checkbox"/> 6" <input type="checkbox"/> Other:		
Date: 1-5-06		Product level from TOC: ND		
Time:		Water level from TOC: 10.74		
Recorded by: C. Hute		Screened interval: 5-20		
Purge time (duration):		Well elevation (TOC): 195.53		

WEATHER

Wind: 0-2 mph Precip. in last 5 days: yes

VOLUME OF WATER TO BE REMOVED BEFORE SAMPLING

<input checked="" type="checkbox"/> 2" well = 0.17 gal/ft 9.26	<input type="checkbox"/> 6" well = 1.47 gal/ft	Gallons in 1 well volume: 1.57
<input type="checkbox"/> 4" well = 0.66 gal/ft	<input type="checkbox"/> " well = gal/ft	Total gallons removed: 4.8 Well volumes removed: 3

CALIBRATION

Parameter	Time	Calibration	Before Sampling	Time	After Sampling
EC:					

FIELD MEASUREMENTS

Time	pH	EC (x1000)	Temp °F	Case Volumes/ Gallons	Appearance
	6.37	320.1	63.9	1 / 1.6	Low Turb no odor no sheen
	6.49	317.1	64.0	2 / 3.2	
	6.77	315.5	64.2	3 / 4.8	
				1	

Notes:

Water level after purging below TOC: 80% of original water level below TOC: yes

Water level before sampling below TOC: 10.80

Appearance of sample: Time: 3:15

<input type="checkbox"/> Bailer:	Type:	GPM:	<input checked="" type="checkbox"/> Pump: ES-40	Type: Submersible	GPM: 1/2
<input type="checkbox"/> Dedicated:	Type:	GPM:	Decontamination method: Liquinox wash, double rinse		

Sample analysis:	<input type="checkbox"/> TPHg	<input checked="" type="checkbox"/> TPHd	<input type="checkbox"/> TPH	<input checked="" type="checkbox"/> BTEX	<input type="checkbox"/> 7 oxygenates	<input type="checkbox"/> Lead scavengers	<input type="checkbox"/> VOCs	<input type="checkbox"/> Nitrates
EPA Method:								

Other:

LABORATORY: ☒ McCampbell Analytical ☐ Other:

Appendix B

Analytical Laboratory Report

RECEIVED

JAN 19 2006



BY: McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

Edd Clark & Associates, Inc. 320 Professional Center Ste. 215 Rohnert Park, CA 94928	Client Project ID: #0351; Steve Hart 1952 Siesta Lane	Date Sampled: 01/06/06
		Date Received: 01/09/06
	Client Contact: Cole Hute	Date Reported: 01/17/06
	Client P.O.:	Date Completed: 01/17/06

WorkOrder: 0601121

January 17, 2006

Dear Cole:

Enclosed are:

- 1). the results of 3 analyzed samples from your #0351; Steve Hart 1952 Siesta Lane project,
- 2). a QC report for the above samples
- 3). a copy of the chain of custody, and
- 4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits.

If you have any questions please contact me. McC Campbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

Edd Clark & Associates, Inc. 320 Professional Center Ste. 215 Rohnert Park, CA 94928	Client Project ID: #0351; Steve Hart 1952 Siesta Lane	Date Sampled: 01/06/06
		Date Received: 01/09/06
	Client Contact: Cole Hute	Date Extracted: 01/09/06
	Client P.O.:	Date Analyzed: 01/10/06

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel*

Extraction method: SW3510C

Analytical methods: SW8015C

Work Order: 0601121

[illegible]

Reporting Limit for DF =1; ND means not detected at or above the reporting limit	W	50	µg/L
	S	NA	NA

* water samples are reported in µg/L, wipe samples in µg/wipe, soil/solid/sludge samples in mg/kg, product/oil/non-aqueous liquid samples in mg/L, and all DISTLC / STLC / SPLP / TCLP extracts are reported in µg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant; d) gasoline range compounds are significant; e) unknown medium boiling point pattern that does not appear to be derived from diesel; f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; k) kerosene/kerosene range/jet fuel range; l) bunker oil; m) fuel oil; n) stoddard solvent/mineral spirit.



McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0601121

EPA Method: SW8021B/8015Cm			Extraction: SW5030B			BatchID: 19787			Spiked Sample ID: 0601122-002A	
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(btex) [£]	ND	60	98.9	104	5.18	104	100	3.81	70 - 130	70 - 130
MTBE	ND	10	93.7	96.4	2.80	96.1	111	14.8	70 - 130	70 - 130
Benzene	ND	10	83	87.4	5.12	82.8	86.3	4.22	70 - 130	70 - 130
Toluene	ND	10	87.2	93.5	7.05	86.9	89.2	2.62	70 - 130	70 - 130
Ethylbenzene	ND	10	89.9	94.4	4.82	89.5	92.5	3.23	70 - 130	70 - 130
Xylenes	ND	30	91	94.3	3.60	90.7	95	4.67	70 - 130	70 - 130
%SS:	100	10	98	105	7.02	96	99	2.96	70 - 130	70 - 130
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE										

BATCH 19787 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601121-001A	1/06/06 3:00 PM	1/13/06	1/13/06 10:44 AM	0601121-002A	1/06/06 3:30 PM	1/13/06	1/13/06 10:24 AM
0601121-003A	1/06/06 3:15 PM	1/13/06	1/13/06 10:57 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount\ Spiked)$; RPD = $100 * (MS - MSD) / ((MS + MSD) / 2)$.

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

cluttered chromatogram; sample peak coelutes with surrogate peak.

N/A = not applicable or not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer



McC Campbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mcccampbell.com E-mail: main@mcccampbell.com

QC SUMMARY REPORT FOR SW8015C

W.O. Sample Matrix: Water

QC Matrix: Water

WorkOrder: 0601121

EPA Method: SW8015C		Extraction: SW3510C			BatchID: 19770			Spiked Sample ID: N/A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
TPH(d)	N/A	1000	N/A	N/A	N/A	105	104	0.671	N/A	70 - 130
%SS:	N/A	2500	N/A	N/A	N/A	119	118	1.13	N/A	70 - 130
All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions: NONE										

BATCH 19770 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0601121-001B	1/06/06 3:00 PM	1/09/06	1/10/06 3:25 PM	0601121-002B	1/06/06 3:30 PM	1/09/06	1/10/06 4:31 PM
0601121-003B	1/06/06 3:15 PM	1/09/06	1/10/06 3:25 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = $100 * (MS - Sample) / (Amount Spiked)$; $RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)$.

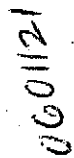
MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer



**Environmental
Consultants**

Chain of Custody Report

P.O. Box 3039, Rohnert Park, CA 94927

Tel: (707) 792-9500 (800) 474-1448 Fax: (707) 792-9504

E-mail in EDF for Upload to Geotracker:

Initials	Yes	No
	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Initials

Initials

Samplers Signature: Colk Hitt

2154

2154

[illegible]

McCampbell Analytical, Inc.

110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620



CHAIN-OF-CUSTODY RECORD

WorkOrder: 0601121 ClientID: ECAR EDF: YES

Requested TAT: 5 days

Report to: Cole Hute
Edd Clark & Associates, Inc.
320 Professional Center Ste. 215
Rohnert Park, CA 94928

TEL: (707) 792-9500
FAX: (707) 792-9504
ProjectNo: #0351; Steve Hart 1952 Siesta Lane
PO:

Bill to:

Accounts Payable
Edd Clark & Associates, Inc.
320 Professional Center Ste.215
Rohnert Park, CA 94928

Date Received: 01/09/2006
Date Printed: 01/09/2006

Requested Tests (See legend below)											
1	2	3	4	5	6	7	8	9	10	11	12

Sample ID	ClientSampleID	Matrix	Collection Date	Hold										
0601121-001	MW-2	Water	1/6/06 3:00:00 PM	<input type="checkbox"/>	A	A	B							
0601121-002	MW-3	Water	1/6/06 3:30:00 PM	<input type="checkbox"/>	A		B							
0601121-003	MW-4	Water	1/6/06 3:15:00 PM	<input type="checkbox"/>	A		B							

Test Legend:

1	G-MBTX_W	2	PREF REPORT	3	TPH(D)_W	4		5	
6		7		8		9		10	
11		12							

Prepared by: Rosa Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.